Volunteer Lake Assessment Program Individual Lake Reports
PILLSBURY LAKE, WEBSTER, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	5,554	Max. Depth (m):	3	Flushing Rate (yr[1])	36.8
Surface Area (Ac.):	45	Mean Depth (m):	1.4	P Retention Coef:	0.35
Shore Length (m):	5,420	Volume (m³):	263,500	Elevation (ft):	415

TROPHIC CLASSIFICATION

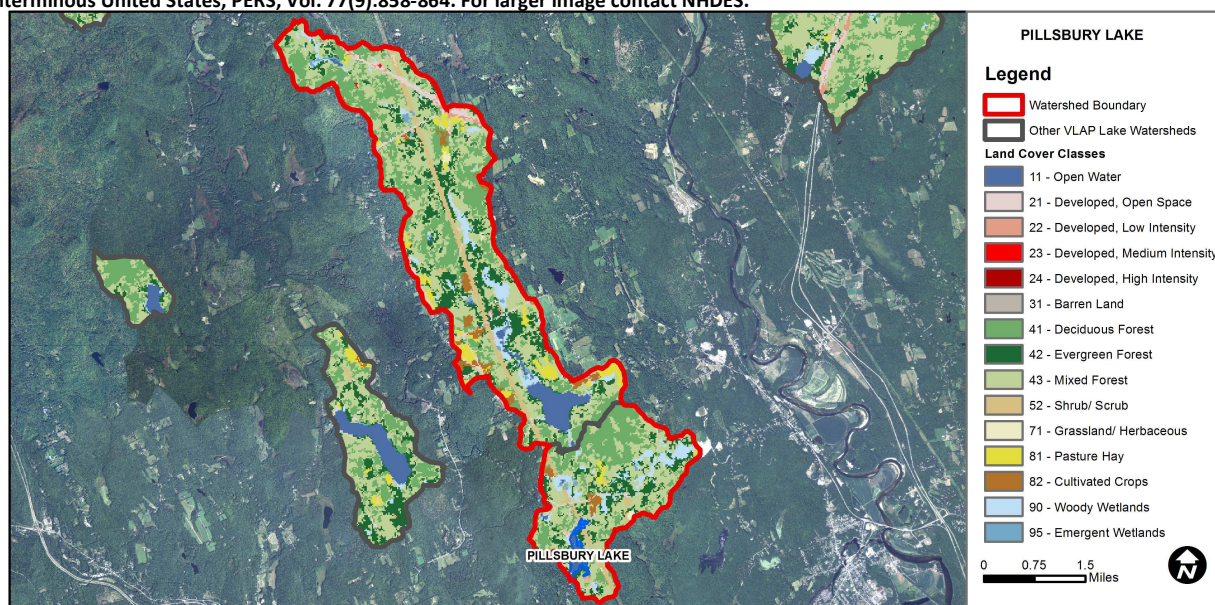| Year	Trophic class
1979	EUTROPHIC
1998	EUTROPHIC

KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Encouraging	<5 samples and median is < threshold. More data needed.
	pH	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	Chlorophyll-a	Encouraging	<5 samples and median is < threshold. More data needed.
Primary Contact Recreation	E. coli	Encouraging	>2 samples exist that are > 75% of geometric mean criteria, but not enough samples to calculate geomertic mean. No single sample exceedances. More data needed.
	Chlorophyll-a	Encouraging	< 10 samples and no exceedance of criteria. More data needed.

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.

Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	3.56	Barren Land	0	Grassland/Herbaceous	0.35
Developed-Open Space	2.92	Deciduous Forest	23.54	Pasture Hay	3.64
Developed-Low Intensity	0.65	Evergreen Forest	15.04	Cultivated Crops	2.38
Developed-Medium Intensity	0.06	Mixed Forest	37.03	Woody Wetlands	5.66
Developed-High Intensity	0.01	Shrub-Scrub	4.43	Emergent Wetlands	0.73

OBSERVATIONS AND RECOMMENDATIONS (*Refer to Table 1 and Historical Deep Spot Data Graphic*)

💧 **CHLOROPHYLL-A:** Deep spot data was not collected this year due to the anticipated abundance of aquatic plant growth clogging navigational channels.

💧 **CONDUCTIVITY/CHLORIDE:** Conductivity and chloride were slightly elevated in Drainage #2, however were relatively low elsewhere.

💧 **E. COLI:** E. coli levels were well below state standards for public beaches and surface waters.

💧 **TOTAL PHOSPHORUS:** Phosphorus levels in the bog were elevated and some sediment was noted in the sample. Drainage #2 and #6 experienced slightly elevated phosphorus levels. A significant storm event occurred prior to sampling and stormwater runoff likely contributed to the elevated phosphorus.

💧 **TRANSPARENCY:** Deep spot data was not collected this year due to the anticipated abundance of aquatic plant growth clogging navigational channels.

💧 **TURBIDITY:** Turbidity was elevated in Drainage #9 and sediment was noted in the sample. Turbidity was also slightly elevated in Drainage #2.

💧 **RECOMMENDED ACTIONS:** Conduct additional storm event sampling at Drainage #2, #6 and #9 to identify potential areas of stormwater runoff in the subwatersheds. Implement stormwater improvement projects if possible. Educate watershed residents on ways to reduce stormwater runoff from their properties utilizing DES' "NH Homeowner's Guide to Stormwater Management".

Station Name	Table 1. 2012 Average Water Quality Data for PILLSBURY LAKE				
	Chloride	Cond.	E. Coli	Total P	Turb.
	mg/l	uS/cm	#/100ml	ug/l	ntu
Bog	3	13.9	10	61	1.44
Drainage #1	4	43.2		16	0.45
Drainage #2	8	79.0		38	2.41
Drainage #6	3	27.1		30	1.35
Drainage #9	5	53.6		13	4.62

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.
Alkalinity: 4.9 mg/L
Chlorophyll-a: 4.58 mg/m^3
Conductivity: 40.0 uS/cm
Chloride: 4 mg/L
Total Phosphorus: 12 ug/L
Transparency: 3.2 m
pH: 6.6

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.
Chloride: < 230 mg/L (chronic)
E. coli: > 88 cts/100 mL – public beach
E. coli: > 406 cts/100 mL – surface waters
Turbidity: > 10 NTU above natural level
pH: 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation
Chlorophyll-a	N/A	Ten consecutive years of data necessary for trend analysis.
Transparency	N/A	Ten consecutive years of data necessary for trend analysis.
Phosphorus (epilimnion)	N/A	Ten consecutive years of data necessary for trend analysis.

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Historical Deep Spot
Chlorophyll-a, Epilimnetic Total Phosphorus & Transparency Data